



**The Hong Kong University of Science and Technology**

**Department of Mathematics**

**Hong Kong Geometry Colloquium**

**Saturday, 23 September 2006**

**Room 2303, Academic Building, (near Lifts 17 & 18), HKUST**

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**9:30a.m.-10:30a.m.**

***Professor Manfred Lehn***

**Johannes Gutenberg Universitat Mainz, Germany**

**Singular symplectic singularities**

It is hard to construct compact complex manifolds with a holomorphic symplectic structure. Up to deformation and birational morphisms, all known examples are provided by moduli spaces of sheaves on K3 or abelian surfaces. If these moduli spaces are singular the problem arises how to resolve the singularities in a symplectic way. O'Grady found one type of symplectically resolvable singularities, thereby constructing a new topological type of a compact holomorphic symplectic manifold. Recently, Kaledin-Lehn-Sorger showed that essentially no other singularities of moduli spaces admit symplectic resolutions. In the talk, I will try to give an example-oriented introduction to the problem and the results.

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**\* 10:30a.m.-11:00a.m. Tea Break** \*

**\* Venue: Room 3493, Academic Building, (near Lifts 25 & 26), HKUST** \*

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**11:00a.m.-12:00noon**

***Professor Jianxun HU***

**Zhongshan University, China**

**Birational cobordism invariance of uniruled symplectic manifolds**

In this talk, I want to briefly introduce birational cobordisms and uniruledness property in symplectic geometry and the birational cobordism invariance of uniruled symplectic manifolds. I also want to mention the important tool: Gromov-Witten invariants and its degeneration formula in the proof of our theorem.

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***All are welcome!***

**Remark: The time of this seminar is irregular as usual schedule.**